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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/980,395	11/28/97	SONTHEIMER	H	D5858D1

HM22/0329

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EXAMINER	
HUFF,S	
ART UNIT	**PAPER NUMBER**
1642	26

DATE MAILED: 03/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/980,395	Applicant(s) Sontheimer et al
	Examiner Sheela J. Huff	Group Art Unit 1642

☒ Responsive to communication(s) filed on *Jan 18, 2001*.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *21-35* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *21-35* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☑ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *24*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 1/18/01 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/980395 is acceptable and a CPA has been established. An action on the CPA follows.

Claims 1-20 have been cancelled.

Claims 21-35 have been added and are currently pending.

2. All of the outstanding rejections have been withdrawn in favor of new ones.

Claim Rejections - 35 USC § 112

3. Claims 28 and 32-35 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. THIS IS A NEW MATTER REJECTION.

Applicant claims a chlorotoxin fused to a "second protein". While the specification does have support for chlorotoxin fused to glutathione-S-transferase and a cytotoxic agent, there is no basis for chlorotoxin fused to **any** protein.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

DAP 5. Claims 30 and 31 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1 and 3 of prior U.S. Patent No. 6028174. This is a double patenting rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 28 (30-31) is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 (and 3) of U.S. Patent No. 6028174. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the second component in the instant application is broader than that of the patent.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by DeBin et al Am. J. Physiol. vol. 264/2 p. C361, 1993.

This reference discloses chlorotoxin in a composition and the administration of this composition to arthropods. (see p. C363, second column). Since this composition is administered to an animal, this is a pharmaceutical composition.

Response to Applicant's arguments

Applicant argues that the high concentration of TFA renders it in acceptable as a pharmaceutical composition. The reference administers it to animals, thus it is

acceptable as a pharmaceutical. The Levine Declaration takes the argument one step further in that is says that the composition of the reference cannot be administered to humans because of the high TFA content. First, applicant's claims are not directed to humans, Second, there is no objective evidence of record to show that the levels of TFA in the composition are hazardous to humans.

Applicant argues that the composition of DeBin et al is impure. Applicant has not excluded impurities from his composition. If applicant intends to insert "pure" into the claims, then applicant is cautioned against the addition of new matter. Furthermore, applicant's claims reads on "comprising" and this is open language and thus this allows for the possibility of impurities.

~~10.~~ Claims 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by hall et al US Patent No. 5223253.

In col. 4, lines 35-40, the reference discloses the use of chlorotoxin in a immunogentically stimulating adjuvant. This reads on applicant's invention.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 21-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBin et al, am J. Physiol. vol. 264/2 p. C361, 1993 in view of Hammock et al US 5756340 and Phillips et al, Cancer Research vol. 54 p. 1008, 1994.

DeBin et al has been discussed above. DeBin et al also suggest the potential use of chlorotoxin as a biophysical probe (see page 368, last sentence).

DeBin et al does not teach labeled chlorotoxin or a fused chlorotoxin.

Hammock et al teaches that two toxins can be expressed in a single recombinant microbe and one of these toxins can be chlorotoxin (see col., 4, lines 25-30 and col. 7, line 33) and the radiolobeling of toxins with 125I (col. 13, lines 45-60).

The formation of toxin/fusion proteins using the toxins of claim 31 for the purpose of targeting toxins to the site of interest is well known. See Phillip et al which shows that the use of a fusion protein of TGF-alpha-*Pseudomonas* Exotoxin in the targeting of the toxin *Pseudomonas* Exotoxin.

In view of the explicit suggestion in the primary reference to use chlorotoxin as a probe and since it is well known that probes need to be labeled prior to use, it would have been obvious to one of ordinary skill in the art at the time of the invention to label the chlorotoxin before using it as a probe. The labels, such as radiolabels and fluorescent labels, are very well known and are routinely used is assays. Therefore, one of ordinary skill in the would readily pick either of those labels.

Hammock et al suggest the formation of a fused protein comprised of two toxins wherein one of the toxins is chlorotoxin. Therefore, in view of the explicit suggestion, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the fused protein. Labeling it also would be within the purview of one skilled in

the art in view of the used of the toxin as a probe. The cytotoxic agents of claim 31 are well known in the art and are routinely used in fusion proteins.

Response to Applicant's arguments

Applicant's main arguments are that the composition is not acceptable for humans. First of all, applicant is arguing limitations not in the claims and secondly, these are mere assertions as no objective evidence is provided to support this.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela J. Huff whose telephone number is (703) 305-7866. The Examiner can normally be reached on Monday and Thursday from 5:30am to 2:00pm.

If attempts to teach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tony Caputa, can be reached on (703)308-3995.

The FAX phone number for the group is (703)308-4242.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**anthony.caputa@uspto.gov**].

All Internet e-mail communications will be made of record in the application file.

PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703)308-0196.

Sheela J. Huff
March 26, 2001

Sheela J. Huff

Primary Examiner